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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/799,422

03/12/2004

Trent C. Reusser

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09/01/2006

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EXAMINER

SWARTHOUT, BRENT

ART UNIT

PAPER NUMBER

2612

DATE MAILED: 09/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/799,422

Applicant(s)

REUSSER ET AL.

Examiner

Brent A. Swarthout

Art Unit

2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

a. Claims 1-7,10,11,13-14,17-18 and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Derman in view of Langner et al.

Derman discloses a method for displaying attitude, heading and navigation data on a single display comprising showing attitude direction indicator 15/16, and a compass rose 14 surrounding the display, except for display of terrain data, and wherein displacement of attitude direction indicator 15/16 with respect to the center of compass rose 14 indicates deflection in pitch and roll axes, since the indicator 15/16 is referenced to center of rose when aircraft is at zero pitch and roll attitudes.

Langner teaches desirability of displaying attitude direction indicator 176/177 in conjunction with compass 190 and terrain data (col.6, line 43).

It would have been obvious to display terrain data as suggested by Langner in conjunction with an ADI as disclosed by Derman with associated compass rose, in order to allow a pilot to view multiple desired data at once without having to switch screens, thus saving space and allowing display of more comprehensive data for providing safer flight conditions.

With regard to claims 2-3, Langner teaches use of altitude 180 and airspeed 160 displays.

With regard to claim 4, attitude indicators typically move with respect to a central position in order to indicate movement, when it is desired to have a horizon line remain static.

Regarding claim 5, Langner teaches display of CDI (Fig. 1a).

2. Claims 8 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Derman in view of Langner et al. and Chen et al.

Chen teaches desirability when displaying terrain data with a primary flight display of displaying the data in a top down 3-D view (figures 9-10, page 2, par. 25).

It would have been obvious to use a format for display as suggested by Chen in conjunction with a terrain display as suggested by Derman and Langner, in order to make terrain distinctions more easy to see, thus providing a pilot greater protection against ground collision.

3. Claims 9 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Derman in view of Langner et al. and Von Viebahn et al.

Von Viebahn teaches desirability in a primary flight display system of having display elements be transparent in order that superimposed information can be viewed through the transparent objects (col. 4, lines 27-33).

It would have been obvious to utilize translucent indicators as suggested by Von Viebahn in conjunction with attitude indicator as disclosed by Derman and Langner, in order to allow a pilot to observe data which was displayed with attitude information, without the data being obscured by non-see-through elements.

4. Claims 12 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Derman in view of Langner et al. and Naimer et al.

Naimer discloses displaying additional information with a primary flight display including airport and runway data (Fig. 4 and 5).

It would have been obvious to include runway/airport data with an attitude display as disclosed by Derman and Langner, in order to allow a pilot to observe a landing area as far as position with respect to runway and obstacles was concerned, to provide safer landings and takeoffs.

5. Regarding applicant's remarks in the amendment filed 7-10-06, on page 6 it is stated that the attitude direction indicator is not referenced to a center of the compass rose with displacement indicating deflection of pitch and roll axes. However, Derman shows attitude direction indicator 15/16 centered with respect to the compass rose 14, wherein movement of the attitude direction indicator indicates the corresponding deflections in the pitch and roll axes of the aircraft (Fig. 2).

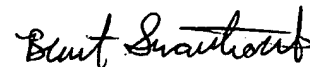
On page 18 it is stated that there is no motivation to combine teachings of references. However, Derman clearly teaches the desire to completely surround an attitude direction indicator with a compass rose, and Langner clearly teaches desirability of overlaying attitude direction indicator 176 and compass rose 171 over terrain information. Choosing to overlay a complete compass rose as suggested by Derman over terrain information as disclosed by Langner would have been obvious to one of ordinary skill in the art in order that a pilot would have been able to focus attention on more than one critical piece of navigation information at a

time, thus providing greater safety by allowing a pilot to sense position with respect to obstacles without going off course.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brent A Swarthout whose telephone number is 571-272-2979. The examiner can normally be reached on M-F from 6:30 to 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Horabik, can be reached on 571-272-3068. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Brent A Swarthout  
Art Unit 2636

**BRENT A. SWARTHOUT  
PRIMARY EXAMINER**